

# Chapter 2 Hardware Setup

## **To Get Things Ready for Hardware Setup !**

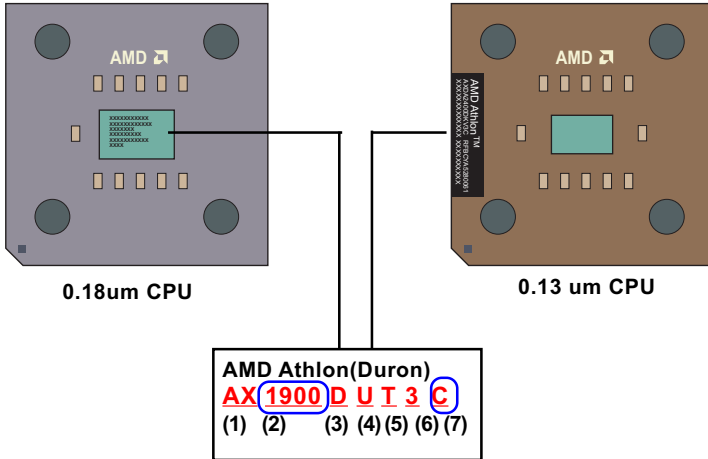
1. We recommend to install your CPU before any other components. For detailed installation instructions of a processor, you can also refer to the pamphlet enclosed in your CPU package.
2. Installing a cooling fan with a good heatsink is a must for proper heat dissipation for your CPU. Get ready an appropriate fan with heatsink for proper installation. Improper fan and installation will damage your CPU.
3. In case CPU Vcore, CPU clock or Frequency Ratio is adjustable on board, please follow the instructions described in the User Manual for proper setup. Incorrect setting will cause damage to your CPU.

**The following topics are included in this chapter:**

- 2-1 CPU Identification and Installation**
- 2-2 Memory Installation**
- 2-3 AGP Slot Installation**
- 2-4 IDE Connector Installation**
- 2-5 Floppy Drive Connector ( FDC ) Installation**
- 2-6 ATX Power Supply Installation**
- 2-7 Jumper Settings**
- 2-8 Other Connectors Configuration**

## 2-1 CPU Identification and Installation

### 2-1.1 CPU Identification Legends



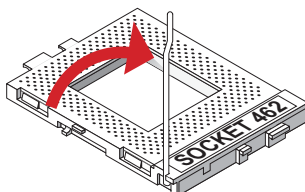
- |     |   |
|-----|---|
| (1) | <b>Family / Architecture:</b><br>A, AX, AXDA=AMD Athlon Processor<br>D, DHD, DHM, DHL=AMD Duron Processor   |
| (2) | <b>Speed:</b> 1000=1000MHz, 1600=1400MHz, 1700=1467MHz,<br>1800=1533MHz, 1900=1600MHz, 2000=1667MHz,<br>2100=1733MHz, 2200=1800MHz, 2400=2000MHz,<br>2600=2133MHz, 2700=2167MHz, 2500=1833MHz(Barton),<br>2800=2083MHz(Barton), 3000=2250MHz(Barton),<br>3200=2332MHz(Barton) |
| (3) | <b>Package Type:</b> A=CPGA, D=OPGA   |
| (4) | <b>Voltage:</b> L=1.5V, U=1.6V, K=1.65V, P=1.7V, M=1.75V, N=1.8V  |
| (5) | <b>Maximum Temperature:</b> R=70°C, Y=75°C, V=85°C<br>T=90°C, S=95°C, Q=100°C   |
| (6) | <b>Size of L2 Cache:</b> 1=64Kb, 2=128Kb, 3=256Kb, 4=512Kb  |
| (7) | <b>Max FSB:</b> A=B=200MHz, C=266MHz, D=333MHz, E=400MHz<br><b>Note:</b> Get the Host CPU Clock by dividing FSB by 2.   |

## 2-1.2 CPU Installation with Socket 462

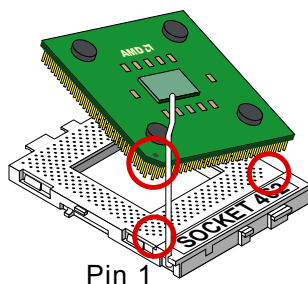
This mainboard is built with CPU Socket 462 supporting the AMD CPUs Athlon, Athlon XP and Duron:

- Follow the steps described in this section to install CPU into the on-board Socket 462.
- After installation of CPU, you must also install a proper cooling fan on top of the CPU and connect the Fan cable to the CPU fan connector.

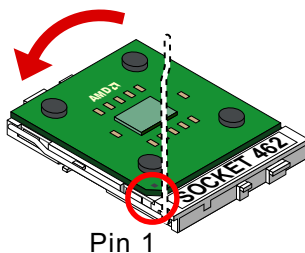
1. First pull sideways the lever of Socket 462, and then turn it up 90° so as to raise the upper layer of the socket from the lower platform.



2. Configure Pin 1 of CPU to Pin 1 of the Socket, just as the way shown in the diagram on the right. Adjust the position of CPU until you can feel all CPU pins get into the pin holes of the socket.



3. Make sure that all CPU pins have completely entered the socket and then lower down the lever to lock up CPU to socket.



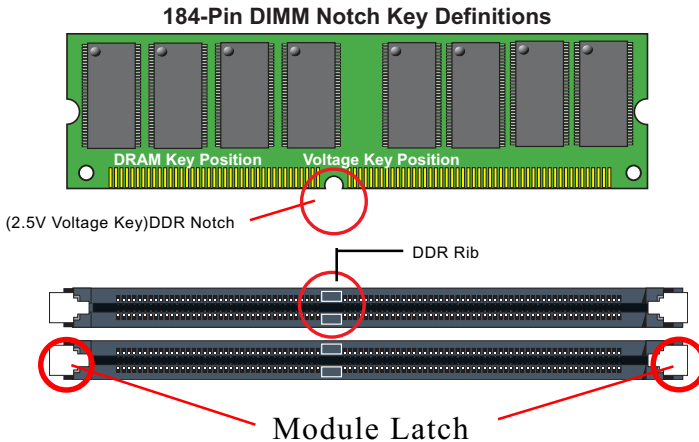
## 2-2 Memory Installation

How to tackle the memory Modules:

- Make sure to unplug your power supply before adding or removing memory module. Failure to do so may cause severe damage to both your mainboard and the memory module.
- Pay attention to the orientation of the DIMM slots. Forcing a DIMM into a slot improperly will damage the memory module and slot itself.
- Make sure you have the right type of memory module for your mainboard.

### 2-2.1 To Install DDR SDRAM Module

- This series supports up to 2GB unbuffered DDR 400/333/266 SDRAM, with 2 DDR DIMM slots on board. Do not insert other type of modules into these slots.
- DDR DIMM slot has 184-pins and one notch. Insert a DDR SDRAM vertically into the 184-pin slot with the notch-to-rib matching. Press the module down in a gradual way until it surely reaches the bottom and clicks straight up the two latches on the left and right of the slot. If any one of the latches has not turned up completely, you should unplug the module and press it down the slot a bit more firmly.

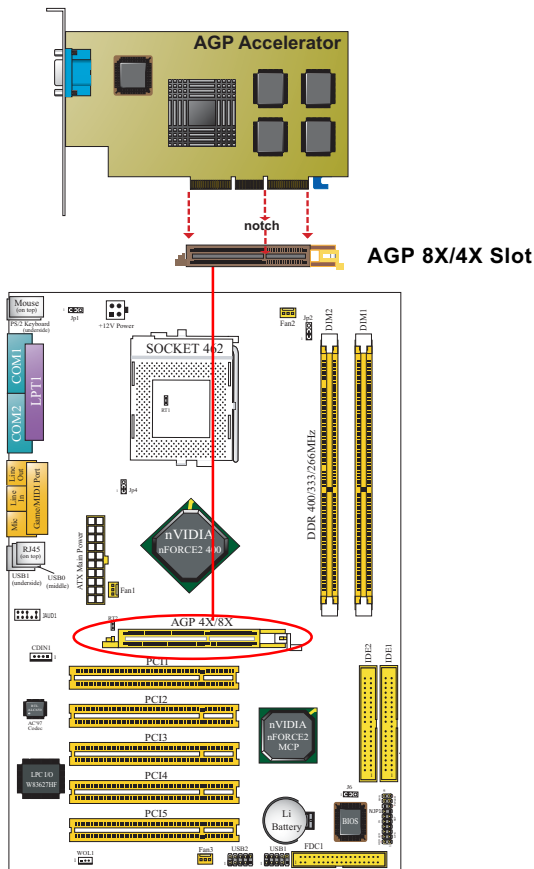


### 2-2.2 To Remove a DIMM

Press down the holding latches on both sides of slot to release the module from the DIMM slot.

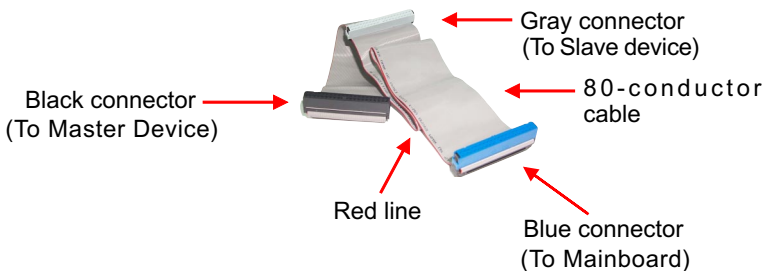
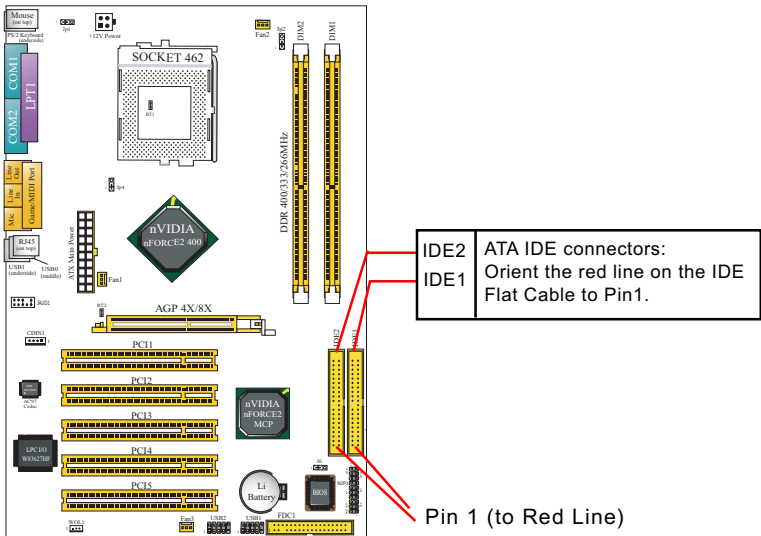
### 2-3 AGP Slot Installation

The AGP slot on board supports 1.5V AGP 8X/4X card only. A Rib is specifically added to the 8X/4X slot so as to match the AGP 8X/4X card. To insert a 3.3V AGP 2X card into the AGP 4X slot will damage the system chip and burn the 1.5V circuitry. An AGP 8X card will support a data transfer rate up to 2GB/sec, while an AGP 4X card will provide 1GB/sec transfer rate.



## 2-4 IDE Connector Installation

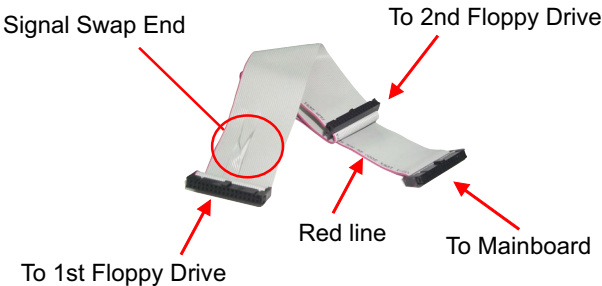
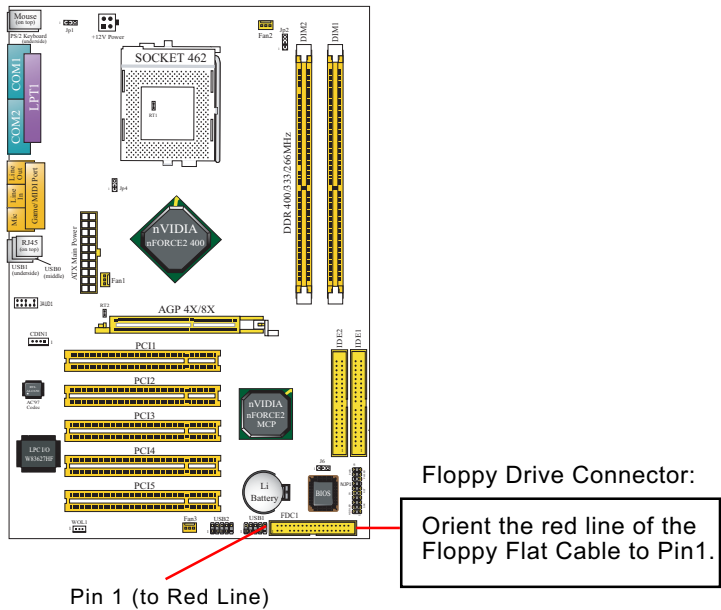
To install IDE Connector, you may connect the blue connector of IDE cable to the primary (IDE1) or secondary (IDE2) connector on board, and then connect the gray connector to your slave device and the black connector to your master device. If you install two hard disks, you must configure the second drive to Slave mode by setting its jumpers correctly. Please refer to your hard disk documentation for the jumper settings.



### IDE Flat Cable

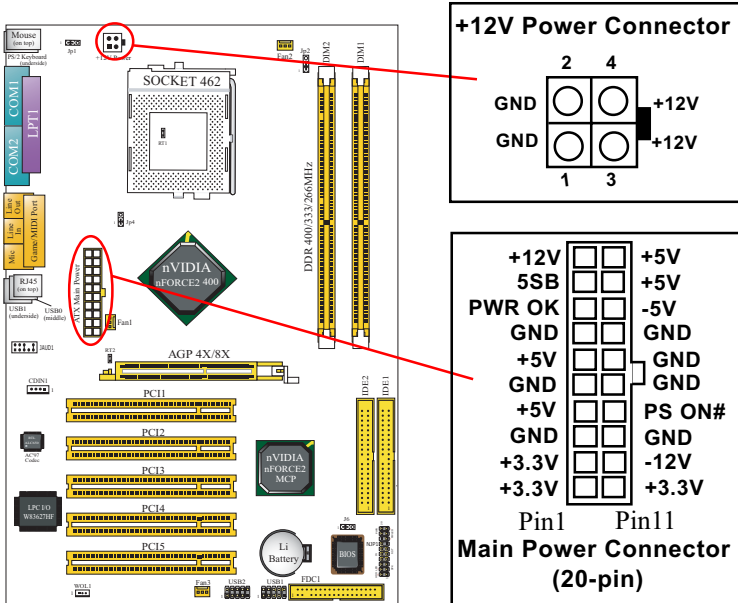
## 2-5 Floppy Drive Connector Installation

To install FDC, you should connect the end of FDC cable with single connector to the board, and connect the other end with two connectors to the floppy drives.



**FDD Cable**

## 2-6 ATX Power Supply Installation



ATX V2.03 Power Supply is strongly recommended running with the nFORCE2-chipset mainboard.



To set up Power Supply on this mainboard:



1. Get ready a V2.03 ATX Power Supply which provides a square-shaped +12V Power Connector in addition to the 20-pin Main Power Connector and other peripheral power connectors.
2. Connect the on-board square-shaped +12V Power Connector to the square-shaped +12V Power Connector of the Power Supply.
3. Connect the on-board 20-pin Main Power Connector to the 20-pin Main Power Connector of the Power Supply. Please note that both the +12V Power Connector and the 20-pin Main Power Connector should be connected to Power Supply to power on the system.





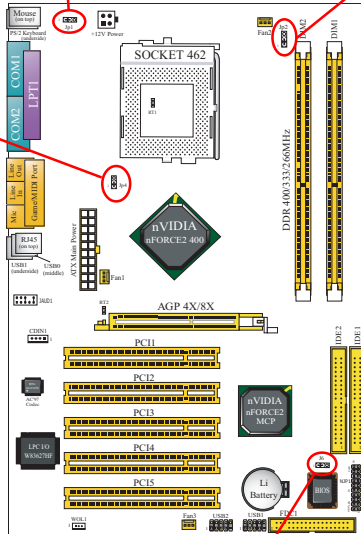
## 2-7 Jumper Settings



The following diagrams show the locations and settings of jumper blocks on the mainboard.

<b>Jp1:</b> <b>Keyboard/Mouse Power On / Wake Up</b>	
 1	<b>1-2 closed (default)</b> Keyboard/Mouse Power On / Wake Up Disabled
 1	<b>2-3 closed</b> Keyboard/Mouse Power On / Wake Up Enabled

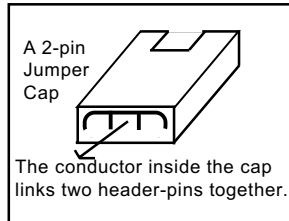
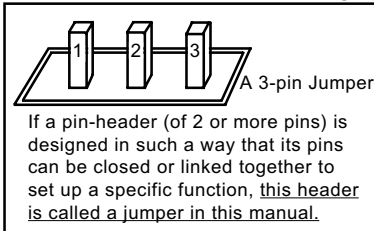
<b>Jp2:</b> <b>Anti-burn Shield (ABSII) (Overheated CPU Shutdown) (only for Athlon XP/ Duron Morgan)</b>	
 1	<b>1-2 closed (default)</b> To enable overheated CPU (85°C) shutdown function
 1	<b>2-3 closed</b> To disable overheated CPU shutdown function

<b>Jp4 :</b> <b>CPU Clock Select</b>	
 1	<b>(default)</b> <b>1-2 closed</b> For 100MHz or 133MHz CPU
 1	<b>2-3 closed</b> For 166MHz or 200MHz CPU



<b>J6:</b> <b>Clear CMOS</b>	
 1	<b>1-2 closed (default)</b> To hold data
 1	<b>2-3 closed</b> To clear CMOS

### 2-7.1 How to tackle the Jumpers:



- A Jumper is usually but not necessarily given a “JpX” legend.
- In the Jumper setting diagram, all jumper pins covered with black marks stand for closed pins with jumper cap.

Jp X 1 3  
Jumper with  
Pin 2-3 closed

1 3  
Jumper with  
all pins open

1 3  
Jumper with  
Pin 1-2 closed

- Do not remove any jumper cap when power is on. Always make sure the power is off before changing any jumper settings. Otherwise, mainboard could be damaged.

### 2-7.2 Jp4: CPU Clock Select

1. Before setting the CPU clock by Jp4, read the Identification Legend on the CPU, find the Max FSB and divide it by two. The result is the default CPU clock.
2. Setting Jp4 1-2 closed is for 100MHz or 133MHz CPU.
3. Setting Jp4 2-3 closed is for 166MHz or 200MHz CPU, 100MHz or 133MHz CPU will fail to boot herewith.
4. If 100MHz or 133MHz CPU fails to boot system, you should excute the nVIDIA-Boot-Failure-Restart Procedure to reboot system.

Jp4 : CPU Clock Select	
(default)	
	<b>1-2 closed</b> For 100MHz or 133MHz CPU
	<b>2-3 closed</b> For 166MHz or 200MHz CPU

### nVIDIA Boot-Failure-Reboot Procedures:



Whenever nVIDIA system fails to boot (including overclock and non-overclock cases), it requires a more guaranteed Reboot Procedure to restart system.

- (1) To reboot nVIDIA system, users should first power off the system.
- (2) If a “CPU Clock Select” Jumper is on board, restore this jumper setting to default setting.
- (3) Execute the “Clear CMOS” procedures with “Clear CMOS” Jumper.
- (4) Then press down “Insert” key of the keyboard before pressing down Power Button to start system. Do not release Insert Key until you can see the initial bootup screen appear.
- (5) In some “overclocking cases by BIOS Setup”, if system still cannot boot up with the above 4 steps, please remove the on-board battery from the battery-socket and unplug the power cord as well. Keep the battery and power cord away from system in 10 to 20 seconds so as to make sure all power residue has faded away.
- (6) After restoring the power cord and battery to system, make sure the “CPU Clock Select” Jumper is at “Default Setting” and then press the Power Button to restart system again. Please note that Step (5) will take the place of Step (3) and (4).
- (7) After starting system, users should also enter “Advanced Chipset Features” of BIOS Setup and set the “FSB Frequency” to “CPU Default” value for a guaranteed bootup. However, user can also select a higher CPU clock to try overclocking again.



### 2-7.3 J6: nVIDIA Clear CMOS

When you have problem with rebooting your system, you can clear CMOS data and restore it to default value. To clear CMOS with Jumper J6, please follow the steps below:

1. Power off system.
2. Set J6 to Pin 2-3 closed.
3. After 3 or 5 seconds(allowing residue power to fade away), return the J6 setting to Pin1-2 closed.
4. To reboot the system, press down “Insert” key before pressing down Power Button. Do not release Insert key until you see the initial bootup screen.

J6: Clear CMOS	
	<b>1-2 closed (default)</b> To hold data
	<b>2-3 closed</b> To clear CMOS

## 2-7.4 Jp2: Anti-burn Shield (ABSII)

<b>Jp2:</b> <b>Anti-burn Shield (ABSII)</b> <b>(Overheated CPU Shutdown)</b> <b>(only for Athlon XP/ Duron Morgan)</b>	
	<b>1-2 closed (default)</b> To enable overheated CPU (85°C) shutdown function
	<b>2-3 closed</b> To disable overheated CPU shutdown function

Jp2 is designed to enable the overheat safeguard for some CPUs which are incorporated with a protective thermal diode. The latest AMD Athlon XP and Duron Morgan CPUs are incorporated with such thermal diode and can be protected by this function. Setting Jp2 1-2 closed (default setting) will get system shutdown when the above-mentioned CPUs get to 85°C (the default protection temperature.) Only when the CPU returns to a cooler state can you restart your system.



For other CPUs that are not incorporated with a protective thermal diode, please set Jp2 2-3 closed to disable the function because it is a vain design now.

Reminder: If a sudden shutdown happens to your system which has been running well for a while with an AMD Athlon XP/ Duron Morgan CPU, this might be caused by the “Overheated CPU Shutdown” design. Please use a better CPU cooling fan and restart your system.

2-7.5 Jp1: KB/Mouse Power On/Wake Up

Jp1 is designed on board as a jumper to enable/disable the PS/2 keyboard/mouse Power On/Wake Up from system off or suspend mode. Yet users should still enter BIOS setup to choose the Wake Up/ Power On mode.

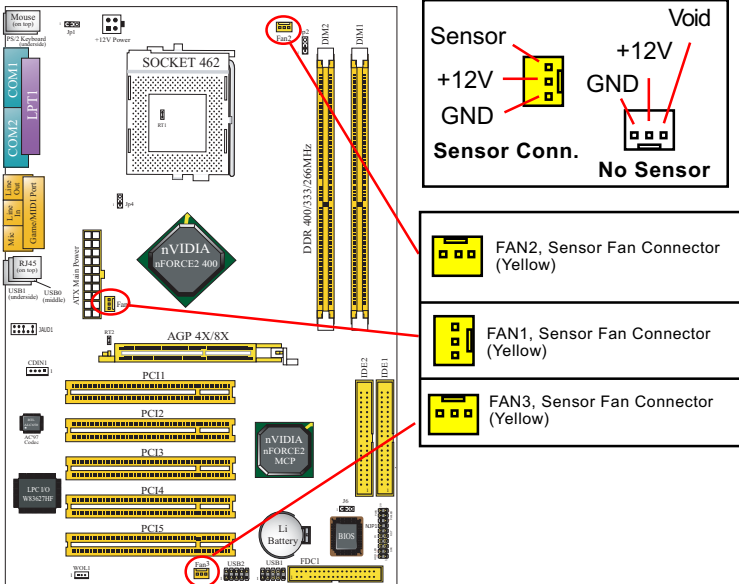
USB keyboard/mouse Wake Up function is not supported in this series.

<b>Jp1:</b> <b>Keyboard/Mouse</b> <b>Power On / Wake Up</b>	
 1	<b>1-2 closed (default)</b> Keyboard/Mouse Power On / Wake Up Disabled
 1	<b>2-3 closed</b> Keyboard/Mouse Power On / Wake Up Enabled

## 2-8 Other Connectors Configuration

This section lists out all connectors configurations for users' reference.

### 2-8.1 Onboard FAN Connectors



Both Sensor and No-sensor Fan Connectors support CPU/AGP/System/Case cooling fan with +12V mode. When connecting the wire to any Fan Connector, user should make sure that the red wire is for the positive current and should be connected to pin +12V, and the black wire is Ground and should be connected to pin GND. A Hardware Monitor chipset is on board, with which user can install a Hardware Monitor Utility and read the fan speed transmitted from the sensor fan connector. Otherwise, user can read the fan speed from the “SmartDoc Anti-Burn shield” in CMOS BIOS.

A running fan will send out 2 electric pulses per rotation of its fan blade to a Sensor Fan Connector which in turn will count the electric pulses and send the information to the System Hardware Monitor. The hardware Monitor Program will work out the fan rotation speed and display it on screen.

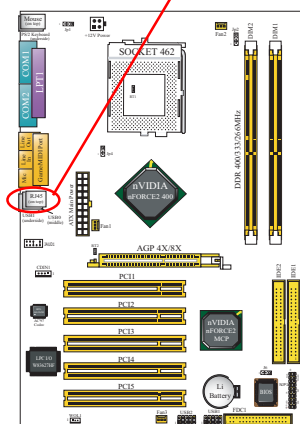
## 2-8.2 USB Ports and USB Pin-headers

This series provides two USB ports USB0 and USB1 on board supporting various USB devices. In addition, two USB pin-headers are added on board to provide expansion of four more optional USB ports by using two additional USB Cables. User can order the optional USB cables from your mainboard dealer or vender.

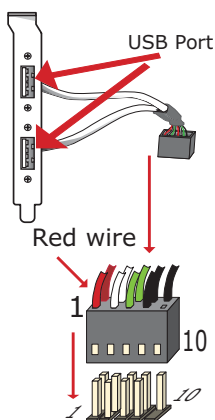
When plugging the USB cable to USB Header, user must make sure the red wire is connected to Pin 1.

All 6 USB ports are compliant with 1.0 / 2.0 USB Bus. USB 2.0 supports Windows 2000 and above. Please see Chapter 3 for USB 2.0 installation.

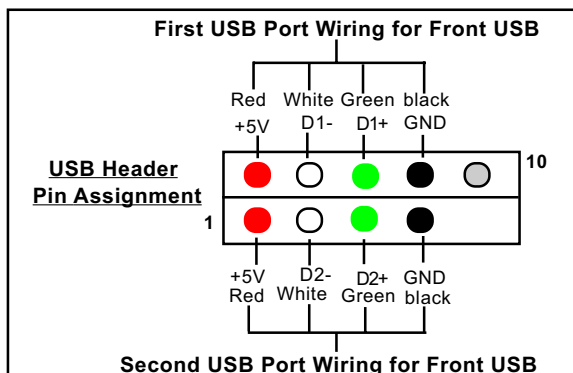
USB connectors USB0, USB1(underside)



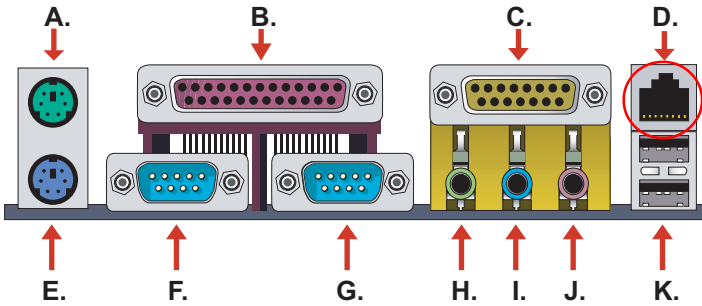
USB Cable (Optional)



USB Pin-headers USB2 and USB1



### 2-8.3 Chassis Panel Connectors



A : PS/2 Mouse

B : LPT1 Port

C : Game/MIDI

D : Lan Port RJ45 (Top)  
(NV400-L64 Only)

E : PS/2 Keyboard

F,G: COM 1, COM 2

H : Line Out /

Front Speaker OUT

I : Line In /

Rear Speaker Out

J : Microphone Input /

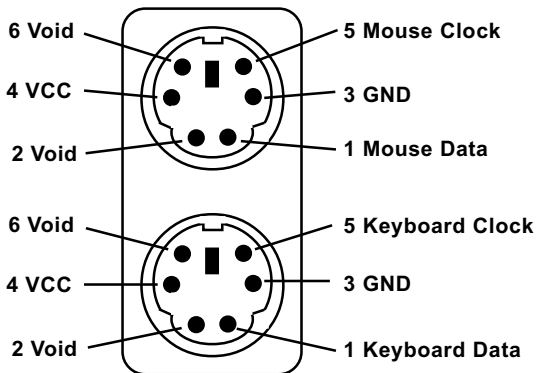
Center Subwoofer Out

K : USB 1 (underside)

USB 0 (middle)

### 2-8.4 PS/2 Mouse And PS/2 Keyboard

PS/2 Mouse Connector (green, on top)

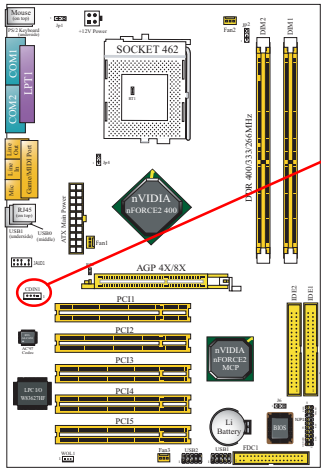



PS/2 Keyboard Connector (purple, underside)



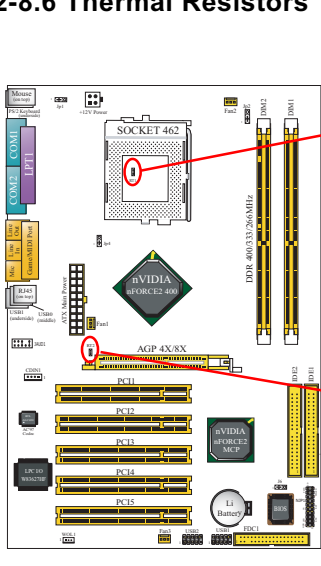
2-8.5 CD-ROM Audio Connectors

CDIN1 is an audio connector connecting CD-ROM audio to mainboard.




CD-ROM Audio Connector	
 1	Pin Signal
Pin 1	Left Channel
Pin 2	GND
Pin 3	GND
Pin 4	Right Channel

2-8.6 Thermal Resistors




**Thermal Resistor RT1**

 RT1

RT1 is mounted with Thermal Resistor by default for detecting external CPU temperature.

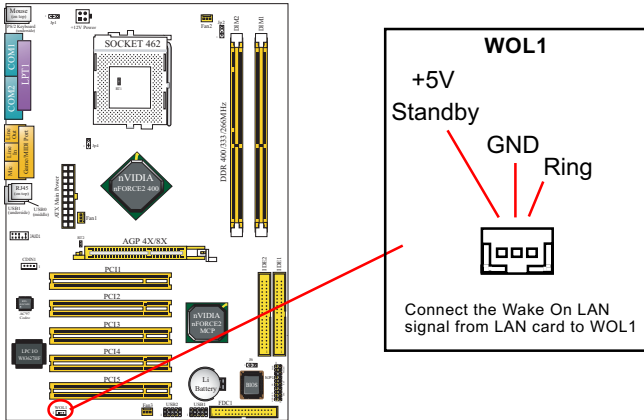
**Thermal Resistor RT2**

 RT2

RT2 is mounted with Thermal Resistor by default for detecting system temperature.

## 2-8.7 Wake On LAN Connector:

1. This connector connects to a PCI LAN card with a Ring signal output. The connector powers up the system when it receives a wake-up packet or signal through the LAN card.
2. This feature requires that Resume On Ring feature is enabled in the BIOS setting "Power Management Setup" and that your system must be on ATX power supply with at least 720mA / +5V standby power.

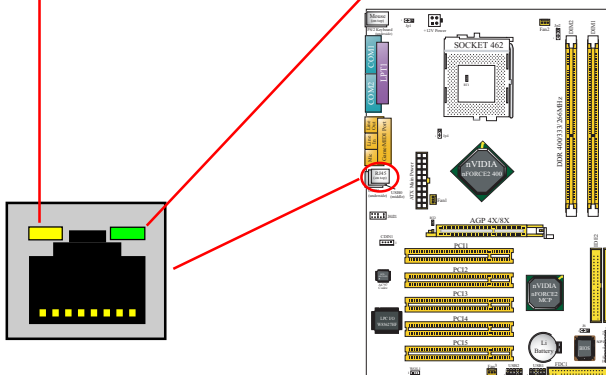


## 2-8.8 LAN Connector (NV400-L64 Only)

One RJ45 connector is on board for network connection.

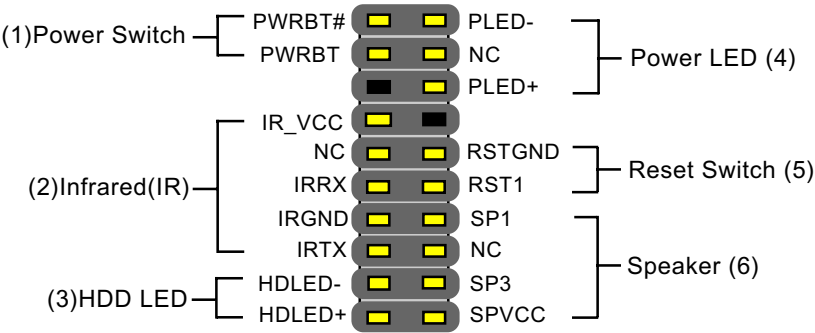
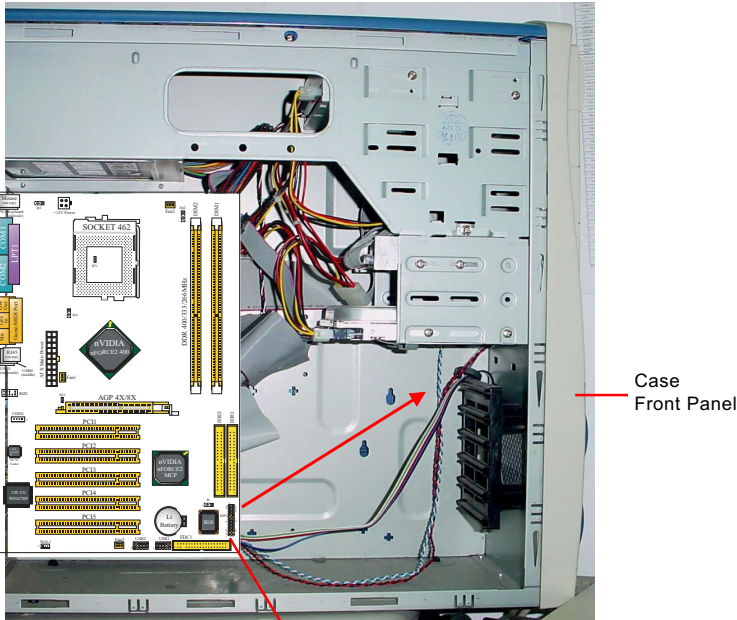
Yellow LED "On" to indicate Network hub is in connection with the system.

Green LED blinks to indicate that data transmission is undergoing in 10/100 Base T mode.



2-8.9 Complex Pin-header (Front Panel Connectors)

This complex Pin-header consists of the following connectors for various front panel supports. When you have fixed the mainboard to the case, join the connectors of this Complex Pin-header to the case Front Panel.



**(1) Power Switch Connector:**

Connection: Connected to a momentary button or switch.

Function: Manually switching the system between “On” and “Soft Off”. Pressing the momentary button for more than 4 seconds will also turn the system off.

**(2) IR Connector (Infrared Connector):**

Connection: Connected to Connector IR on board.

Function: Supporting wireless transmitting and receiving module on board.

**(3) HDD LED Connector:**

Connection: Connected to HDD LED.

Function: To supply power to HDD LED.

**(4) Power LED Connector:**

Connection: Connected to System Power LED.

Function: To supply power to “System Power LED”.

**(5) Reset Switch Connector:**

Connection: Connected to case-mounted “Reset Switch”.

Function: To supply power to “Reset Switch” and support system reboot function.

**(6) Speaker Connector:**

Connection: Connected to the case-mounted Speaker.

Function: To supply power to the case-mounted Speaker.

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2-8.10 Front Panel Audio Connector

This Mainboard is designed with a Front Panel Audio connector “JAUD1” which provides connection to your chassis.

- 1. When JAUD1 is set to 5-6 closed and 9-10 closed, this default setting disables this connector and leaves the Back Panel Audio enabled.
- 2. To use this Front Panel Audio Connector, please open all pins of JAUD1 and connect it to your chassis.

